

IN THE CLAIMS

Please amend claims 1, 11 and 17 and add new claims 21-26 as follows:

1. (CURRENTLY AMENDED) A method for generating and analyzing random sample values on a computer, said method comprising the steps of:

- (a) generating a set of numbers that are substantially uniformly distributed between an upper numerical limit and a lower numerical limit;
- (b) utilizing a computer to map each one of said numbers to a corresponding sample value on a cumulative density function (CDF) curve;
- (c) collecting each said sample value into an ordered set of sample values;
- (d) scrambling said ordered set of sample values so as to reorder said sample values in a substantially random manner and thereby form a random set of sample values; and
- (e) utilizing said random set of sample values to form a histogram-type output; and
- (f) presenting the output on a display that is viewable on said computer for statistical analysis.

2. (PREVIOUSLY PRESENTED) The method of claim 1, wherein said numbers are ordered in descending order, and said sample values are ordered in ascending order.

3. (PREVIOUSLY PRESENTED) The method of claim 1, wherein said upper numerical limit is substantially equal to 1, and said lower numerical limit is substantially equal to 0.

4. (PREVIOUSLY PRESENTED) The method of claim 1, wherein said upper numerical limit is substantially equal to 100%, and said lower numerical limit is substantially equal to 0%.

5. (PREVIOUSLY PRESENTED) The method of claim 1, wherein said cumulative density function curve is represented by a look-up table stored on said computer.

6. (PREVIOUSLY PRESENTED) The method of claim 5, wherein each one of said numbers is mapped to a corresponding sample value on said cumulative density function curve by particularly looking up each said corresponding sample value in said look-up table without the need for pre-sorting said numbers.

7. (PREVIOUSLY PRESENTED) The method of claim 1, said method further comprising the step of:

generating at least one alternative set of numbers via companding such that said numbers are substantially uniformly distributed and more closely interspaced in at least one section between said upper numerical limit and said lower numerical limit so as to ensure that a sufficient amount of corresponding sample values can be successfully collected from any low-probability area defined by said cumulative density function curve and that any said low-probability area is therefore not disproportionately underrepresented by said sample values.

8. (PREVIOUSLY PRESENTED) The method of claim 7, said method further comprising the step of determining a percentage number of sample values collectable from said low-probability area as compared to a percentage number of sample values collectable from a high-probability area defined by said cumulative density function curve.

9. (PREVIOUSLY PRESENTED) The method of claim 8, said method further comprising the steps of:

increasing the number of sample values collected from said low-probability area by a companding factor; and

decreasing the number of sample values collected from said high-probability area by said companding factor;

wherein said companding factor is based on a comparison between said percentage number of sample values collectable from said low-probability area and said percentage number of sample values collectable from said high-probability area.

10. (PREVIOUSLY PRESENTED) The method of claim 9, said method further comprising the step of dividing the probability of collecting sample values from said high-probability area by said companding factor.

11. (CURRENTLY AMENDED) A method for generating and analyzing random sample values on a computer according to a probability density function (PDF), said method comprising the steps of:

(a) generating a set of numbers that are substantially uniformly distributed and spaced apart between an upper numerical limit and a lower numerical limit;

(b) utilizing a computer to map each one of said numbers to a corresponding sample value on a cumulative density function (CDF) curve, which is mathematically related to said probability density function and represented by a look-up table stored on said computer;

(c) collecting each said sample value into an ordered set of sample values;

(d) scrambling said ordered set of sample values so as to reorder said sample values in a substantially random manner and thereby form a random set of sample values; and

(e) utilizing said random set of sample values to form histogram-type output; and

(f) presenting the output on a display that is viewable on said computer for statistical analysis.

12. (PREVIOUSLY PRESENTED) The method of claim 11, wherein step (d) is at least partially accomplished by utilizing a pseudo-random number (PRN) sequence.

13. (PREVIOUSLY PRESENTED) The method claim 11, wherein said upper numerical limit is substantially equal to 1, and said lower numerical limit is substantially equal to 0.

14. (PREVIOUSLY PRESENTED) The method of claim 11, wherein said upper numerical limit is substantially equal to 100%, and said lower numerical limit is substantially equal to 0%

15. (PREVIOUSLY PRESENTED) The method of claim 11, said method further comprising the step of:

generating alternative sets of numbers via companding such that said alternative sets of numbers are spaced apart between said upper numerical limit and said lower numerical limit so as to ensure that sufficient amounts of corresponding sample values can be successfully collected from any low-probability area and any high-probability area defined by said cumulative density function curve.

16. (PREVIOUSLY PRESENTED) The method of 15, wherein said companding is at least partially accomplished by:

reducing the spacing between said numbers in at least one section between said upper numerical limit and said lower numerical limit so as to ensure that a sufficient amount of corresponding sample values can be successfully collected from any low-probability area defined by said cumulative density function curve and that any said low-probability area is therefore not disproportionately underrepresented by said sample values; and

increasing the spacing between said numbers in at least one other section between said upper numerical limit and said lower numerical limit so as to ensure that a sufficient amount of corresponding sample values can be successfully collected from any high-probability area defined by said cumulative density function curve while also ensuring that said high-probability area is not disproportionately overrepresented by said sample values.

17. (CURRENTLY AMENDED) A system for generating and analyzing random sample values on a computer, said system comprising:

a computer; and

a look-up table stored on said computer;

wherein said computer is operable to

(a) generate a set of numbers that are substantially uniformly distributed between an upper numerical limit and a lower numerical limit;

(b) map each one of said numbers to a corresponding sample value on a cumulative density function (CDF) curve that is represented by said look-up table;

(c) collect each said sample value into an ordered set of sample values;

(d) ~~scrambling~~ scramble said ordered set of sample values so as to reorder said sample values in a substantially random manner and thereby form a random set of sample values; and

(e) ~~utilizing~~ utilize said random set of sample values for form a histogram-type output; and

(f) ~~present the output on a display that is viewable on said computer~~ for statistical analysis.

18. (PREVIOUSLY PRESENTED) The system of claim 17, wherein said upper numerical limit is substantially equal to 1 or 100%, and said lower numerical limit is substantially equal to 0 or 0%.

19. (PREVIOUSLY PRESENTED) The system of claim 17, wherein said computer is also operable to generate alternative sets of numbers via companding such that said alternative sets of numbers are spaced apart between said upper numerical limit and said lower numerical limit so as to ensure that sufficient amounts of corresponding sample values can be successfully collected from any low-probability area and any high-probability area defined by said cumulative density function curve.

20. (PREVIOUSLY PRESENTED) The system of claim 17, wherein said numbers are ordered in descending order, and said sample values are ordered in ascending order.

21. (NEW) The method of claim 1, wherein the statistical analysis comprises a statistical analysis of satellite service availability.

22. (NEW) The method of claim 11, wherein the statistical analysis comprises a statistical analysis of satellite service availability.

23. (NEW) The method of claim 17, wherein the statistical analysis comprises a statistical analysis of satellite service availability.

24. (NEW) The method of claim 1, wherein the set of numbers is generated from a Monte Carlo simulation of satellite service availability.

25. (NEW) The method of claim 11, wherein the set of numbers is generated from a Monte Carlo simulation of satellite service availability.

26. (NEW) The method of claim 17, wherein the set of numbers is generated from a Monte Carlo simulation of satellite service availability.